

TO PLANS AND SPECIFICATIONS
FOR CONSTRUCTION OF

NEW BARROW INNOVATION CAMPUS ELEMENTARY SCHOOL

FOR

BARROW COUNTY BOARD OF EDUCATION
BARROW COUNTY, GEORGIA

DATED: MAY 1, 2021

CUNNINGHAM FOREHAND MATTHEWS & MOORE, ARCHITECTS, INC.
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SHL-D04-21

The following items shall take precedence over the plans and specifications (Project Manual) for the above named project and shall become a part of the Contract Documents.

Where any items called for in the specifications or indicated on the drawings are supplemented hereby, the original shall remain in effect.

Where any original item is amended, voided, or superseded hereby, the provisions of such item not specifically amended voided, or superseded shall remain in effect.

The following items shall be incorporated in the Plans and Project Manual.

A. PROJECT MANUAL:

ITEM NO. 1: SECTION 0871000, FINISH HARDWARE:

At PART 2 - PRODUCTS, at "2.18 KNOX BOX", add the following:

"Install at main entrance and bus lobby. Coordinate exact locations with Architect and Fire Marshal prior to installation."

ITEM NO. 2: SECTION 088000, GLASS AND GLAZING:

Replace section with revised section attached herein.

ITEM NO. 3: Add new SECTION 096650, WOOD ATHLETIC/STAGE FLOORING attached herein.

ITEM NO. 4: SECTION 100000, BUILDING SPECIALTIES:

At PART 2 - PRODUCTS, at:

- a. At SIGNS:, BUILDING INTERIOR SIGNAGE:, Interior Room Signage: delete the sentence that begins "All door frames shall have..." and ends "space number being entered."
- b. At EXTERIOR BUILDING SIGNAGE: add the following:

"Provide clear anodized cast aluminum numerals, minimum 12" height, Helvetica Medium style, minimum (4) digits each side of sign. Mount letters on masonry with spacers."
- c. At SLIDING GLASS WINDOW:, delete first paragraph that begins "Unit shall be Draper Shade..." and ends "specifications, are acceptable."

ITEM NO. 5: SECTION 104100, MESSAGE BOARD SCHOOL SIGN:

Replace section with revised section attached herein.

ITEM NO. 6: SECTION 108000, TOILET ACCESSORIES:

At PART 2 - PRODUCTS, add the following:

"Shower Grab Bar	Bobrick B-6861
Handicap Shower Seat	Bobrick B5181 Reversible Folding Shower Seat
Shower Curtain & Rod	Provide Bobrick 207 x 60 Shower Rod, 204-3 Shower Curtain and 204-1 Shower Curtain Hooks."

ITEM NO. 7: SECTION 154000, HVAC:

At PART 2 - PRODUCTS:

- a. At 2.1 HIGH EFFICIENCY ROOF-TOP AIR CONDITIONING UNITS:, at note "S.," add "Trane" as an approved equal manufacturer.
- b. At 2.2 WATER SOURCE HEAT PUMP UNITS, at note "T.," add "Trane" as an approved equal manufacturer.

- c. At 2.23 KILN VENTILATION SYSTEM (OVERHEAD) replace with the following:

"2.23 KILN VENTILATION SYSTEM (DOWNDRAFT)

- A. Kiln ventilation system shall consist of a metal adjustable bypass vent connector fitting with adjustable foot and duct connection designed to fit the vent outlet at the bottom of a closed kiln. The system shall have a 115 volt fan motor, on off switch, six foot power cord with plug, 5 feet 4 inch diameter high temperature flexible vent pipe.
- B. Kiln ventilation system shall be of the size and capacity indicated on the drawings and as manufactured by Skutt, VentMaster or approved equal by kiln manufacturer."
- d. At 2.41 WATER PIPING - PLASTIC - OPTION 1, at note "C.," add the following:

"Piping 2" and smaller may in lieu of steel piping be type "L" hard copper tubing conforming to ASTM specification B-88"

- e. At 2.50 AIR FILTERS, at note "D.," change to read:

"The company currently under contract to sell the frames and replacement media is Filter Pro, 4510 Helton Drive, Florence, AL, 35630, 256-767-4158.

ITEM NO. 7: SECTION 164400, GYMNASIUM SOUND SYSTEM:

At PART 2 - PRODUCTS, at "2.5 CD PLAYER", change paragraph to read:

"Tascam CD200BT, capable of playing CD's, MP3 CD's and WAV file CD's, iPod connection with auxiliary connection option and Blue-tooth compatible."

B. DRAWINGS:

ITEM NO. 1: DRAWING C0.00:

Replace drawing with revised drawing attached herein.

ITEM NO. 2: DRAWING C2.00:

Replace drawing with revised drawing attached herein.

ITEM NO. 3: DRAWING C2.01:

Replace drawing with revised drawing attached herein.

ITEM NO. 4: DRAWING C5.01:

Replace drawing with revised drawing attached herein.

ITEM NO. 5: DRAWING C7.10:

Replace drawing with revised drawing attached herein.

ITEM NO. 6: DRAWING C7.11:

Replace drawing with revised drawing attached herein.

ITEM NO. 7: Add new DRAWING C7.12, attached herein.

ITEM NO. 8: DRAWING A1.1:

Replace drawing with revised drawing attached herein.

ITEM NO. 9: DRAWING A2.2:

Replace drawing with revised drawing attached herein.

ITEM NO.10: DRAWING A2.5:

Replace drawing with revised drawing attached herein.

ITEM NO.11: DRAWING A2.6:

Replace drawing with revised drawing attached herein.

ITEM NO.12: DRAWING A7.4:

Replace drawing with revised drawing attached herein.

ITEM NO.13: DRAWING A7.7:

Replace drawing with revised drawing attached herein.

ITEM NO.14: DRAWING A7.8:

Replace drawing with revised drawing attached herein.

ITEM NO.15: DRAWING A7.9:

Replace drawing with revised drawing attached herein.

ITEM NO.16: DRAWING A7.10:

Replace drawing with revised drawing attached herein.

ITEM NO.17: DRAWING E0.1:

Replace drawing with revised drawing attached herein.

ITEM NO.18: Delete DRAWING E0.2.ITEM NO.19: DRAWING E1.1:

Replace drawing with revised drawing attached herein.

ITEM NO.20: DRAWING E1.2:

Replace drawing with revised drawing attached herein.

ITEM NO.21: DRAWING E1.3:

Replace drawing with revised drawing attached herein.

ITEM NO.22: DRAWING E2.1:

Replace drawing with revised drawing attached herein.

ITEM NO.23: DRAWING E2.2:

Replace drawing with revised drawing attached herein.

ITEM NO.24: DRAWING E2.3:

Replace drawing with revised drawing attached herein.

ITEM NO.25: DRAWING E2.4:

Replace drawing with revised drawing attached herein.

ITEM NO.26: DRAWING E2.6:

Replace drawing with revised drawing attached herein.

ITEM NO.27: DRAWING E2.7:

Replace drawing with revised drawing attached herein.

ITEM NO.28: DRAWING E3.1:

Replace drawing with revised drawing attached herein.

ITEM NO.29: DRAWING E3.2:

Replace drawing with revised drawing attached herein.

ITEM NO.30: DRAWING E4.1:

Replace drawing with revised drawing attached herein.

ITEM NO.31: DRAWING E4.2:

Replace drawing with revised drawing attached herein.

ITEM NO.32: DRAWING E5.1:

Replace drawing with revised drawing attached herein.

ITEM NO.33: DRAWING E5.2:

Replace drawing with revised drawing attached herein.

ITEM NO.34: DRAWING E5.3:

Replace drawing with revised drawing attached herein.

ITEM NO.35: DRAWING E5.4:

Replace drawing with revised drawing attached herein.

C. PRODUCT AND/OR MANUFACTURER APPROVAL:

None this Addendum

End of Addendum No. 1

SECTION 088000 - GLASS AND GLAZINGPART 1 - GENERALRELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Definitions: "Glass" includes prime glass, processed glass, and fabricated glass products. "Glazing" includes glass installation and materials use to install glass. Types of work in this section include glass and glazing for:

Entrances and other doors, not indicated as "preglazed".

Interior partitions:

"Glass products" is hereby defined to include glazing plastics.

Packaged mirror units are specified as "specialties" in another section.

QUALITY ASSURANCE:

Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.

Safety Glazing Standard: Where safety glass is indicated or required by authorities having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.

Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.

WARRANTY:

Thermal Insulating Units: 10 years against condensation due to edge seal failure. Exterior glazing (vertical): 2 years against leakage.

DELIVERY, STORAGE AND HANDLING:

Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

PROJECT CONDITIONS:

Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, frost, condensation or other causes.

PART 2 - PRODUCTS

Manufacturers: Subject to compliance with requirements, provide products of one of the following:

Manufacturers of Clear and Tinted Float Glass:

AFG Industries, Inc.
Ford Glass Division.
Guardian Industries Corp.
LOF Glass, Inc.
Saint-Gobain/Euroglass.
Vitro Architectural Glass (formerly PPG Industries, Inc.)

Manufacturers of Wire Glass:

AFG Industries, Inc.
Guardian Industries Corp.
Hordis Brothers, Inc.
Pilkington Sales (North America) Limited.

Manufacturers of Heat-Treated Glass:

AFG Industries, Inc.
Cardinal IG.
Environmental Glass Products.
Falconer Glass Industries.
Ford Glass Division.
Guardian Industries Corp.
Hordis Brothers, Inc.
LOF Glass, Inc.
Saint-Gobain/Euroglass.

Spectrum Glass Prod. Div., H. H. Robertson Co.
Technical Glass Products
Vitro Architectural Glass (formerly PPG Industries, Inc.)
Viracon, Inc.
Saftifirst

Manufacturers of Plastic Glazing:

General Electric
Rohm & Haas
Sheffield Plastics

GLASS PRODUCTS, GENERAL:

Primary Glass Standard: Provide primary glass which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.

PRIMARY GLASS PRODUCTS:

Polished Plate Glass: Shall be ¼" glazing quality, conforming to Federal Specification DD-G-451a, to be tempered where shown on the plans.

Tempered Glass: Shall be tempered plate, Federal Specification DD-G-00451c and shall meet the requirements of USA Standard Z-97.1-1966. Each light of tempered plate glass shall be permanently labeled by the manufacturer of the glazing material by etching, sandblasting or ceramic material fired on the glass and be visible after glazing. The label shall identify the manufacturer, thickness and type of safety glazing material, and that it meets the requirements of USA Standard Z.97-.1-1966.

Special Glass for Rated Openings: Where indicated on drawings, provide Fire-Rated Glazing as manufactured by Saftifirst to meet ratings required by openings in rated assemblies. For 20 min. rated openings Superlite I by Saftifirst is acceptable. For 60 min. rated openings Superlite I-XL. by Saftifirst is acceptable.

Standard laminated safety glass shall be installed in all interior classroom and office door lites.

Plastic Glazing: To be General Electric Lexan MR5 sheet 0.375" thick.

INSULATING GLASS:

Insulated Tempered Tinted Glass: Preassembled 1" laminated units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 2190 for Class CBA units.

Conformance: ASTM C 1172 and complying with testing requirements in CPSC 16CFR-1201 for Category II materials.

1. Outboard Lite: Sputter-coated clear float glass.
 - a. Tinted Float Glass: ASTM C 1036, Type 1, Class 2, Quality q3.
 - b. Vacuum Deposition Sputtered Coating: ASTM C 1376.
 - c. Coating on Surface No. 2: SunGuard SN68 on Gray
 - d. Glass Thickness: 6 mm (1/4 inch).
 - e. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
2. Air Space: 6 mm (1/4 inch) wide, hermetically sealed, dehydrated air space.
3. Inboard Laminated Glass Unit:
 - a. Conformance: ASTM C 1172, CPSC 16CFR-1201
 - b. Inner Lite:
 - 1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - 2) Glass Thickness: 6 mm (1/4 inch).
 - 3) Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
 - c. Interlayer: Polyvinyl butyral (PVB) plastic interlayer, clear, 0.060 inch thick.
 - d. Inboard Lite
 - 1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - 2) Glass Thickness: 6 mm (1/4 inch).
 - 3) Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
4. Glass Unit Performance Characteristics:
 - a. Visible Light Transmittance: 34 percent.
 - b. Visible Light Reflectance Outdoors: 6 percent.
 - c. Direct Solar Energy Transmittance: 17 percent.
 - d. Direct Solar Energy Reflectance Outdoors: 16 percent.
 - e. Winter U-Value Nighttime: 0.29.
 - f. Summer U-Value Daytime: 0.27.
 - g. Solar Heat Gain Coefficient: 0.25.
 - h. Summer Relative Heat Gain: 60 percent.

INSULATED TEMPERED REFLECTIVE GLASS:

Conformance: ASTM C 1172 and complying with testing requirements in CPSC 16CFR-1201 for Category II materials.

1. Outboard Lite: Sputter-coated clear float glass.
 - a. Tinted Float Glass: ASTM C 1036, Type 1, Class 2, Quality q3.
 - b. Vacuum Deposition Sputtered Coating: ASTM C 1376.
 - c. Coating on Surface No. 2: SunGuard SNR43 on Gray
 - d. Glass Thickness: 6 mm (1/4 inch).

- e. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
2. Air Space: 6 mm (1/4 inch) wide, hermetically sealed, dehydrated air space.
3. Inboard Laminated Glass Unit:
 - a. Conformance: ASTM C 1172, CPSC 16CFR-1201
 - b. Inner Lite:
 - 1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - 2) Vacuum Deposition Sputtered Coating: ASTM C 1376.
 - 3) Glass Thickness: 6 mm (1/4 inch).
 - 4) Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
 - c. Interlayer: Polyvinyl butyral (PVB) plastic interlayer, clear, 0.060 inch thick.
 - d. Inboard Lite:
 - 1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - 2) Glass Thickness: 6 mm (1/4 inch).
 - 3) Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites. Provide Kind FT (fully tempered) where safety glass is indicated.
4. Glass Unit Performance Characteristics:
 - a. Visible Light Transmittance: 21 percent.
 - b. Visible Light Reflectance Outdoors: 11 percent.
 - c. Direct Solar Energy Transmittance: 9 percent.
 - d. Direct Solar Energy Reflectance Outdoors: 19 percent.
 - e. Winter U-Value Nighttime: 0.28.
 - f. Summer U-Value Daytime: 0.26.
 - g. Solar Heat Gain Coefficient: 0.16.
 - h. Summer Relative Heat Gain: 41 percent.

Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated on the drawings are nominal and the overall thicknesses of units are measured perpendicularly from outer surfaces of glass lites at unit's edge.

Sealing System: Dual seal, with primary and secondary sealants as follows:

Manufacturer's standard sealants.

Spacer Specifications: Manufacturer's standard spacer material and construction.

GLAZING SEALANTS AND COMPONENTS:

General: Provide color of exposed sealant/compound indicated or if not otherwise indicated, as selected by Architect from manufacturer's standard colors, or black if no color is so selected. Comply with manufacturer's recommendations for selection of hardness, depending upon the location of each application, conditions at time of installation, and performance requirements as indicated. Select materials, and variations or modifications, carefully for compatibility with surfaces contacted in the installation.

MISCELLANEOUS GLAZING MATERIALS:

Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

Setting Blocks: Neoprene or EPDM, 70-90 durometer hardness, with proven compatibility with sealants used.

PART 3 - EXECUTIONSTANDARDS AND PERFORMANCE:

Watertight and airtight installation of each glass product is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.

Protect glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. During installation, discard units with significant edge damage or other imperfections.

Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel, and with recommendations of Flat Glass Marketing Association "Glazing Manual," except where more stringent requirements are indicated.

PREPARATION FOR GLAZING:**NO GLAZING SHALL BE STARTED UNTIL METAL FRAMES HAVE A PRIMER AND COLOR COAT, INCLUDING STOPS.**

Clean glazing channel and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate. Remove lacquer from metal surfaces where elastomeric sealants are used.

Apply primer or sealant to joint surfaces where recommended by sealant manufacturer.

GLAZING:

Install setting blocks of proper size in sill rabbet, located $\frac{1}{4}$ th of glass width from each corner. Set blocks in thin course of heel-bead compound, if any.

Provide spacers inside and out, of proper size and spacing, for glass sizes larger than 50 united inches, except where gaskets or preshimmed tapes are used for glazing. Provide $\frac{1}{8}$ " minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.

Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in channel at heel of jambs and head (do not leave voids in sill channels), except as otherwise indicated and depending on light size, thickness and type of glass, and complying with manufacturer's recommendations.

Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

Install sealants and tapes with sufficient extensibility to accommodate thermal expansion and contraction without loss of adhesion to either frame or sheet.

Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminate stains and discolorations.

After installation and removal of masking, protect from paint, plaster, and other splashes by taping 4 mil polyethylene to frame members.

CURE, PROTECTION AND CLEANING:

Protect exterior glass from breakage immediately upon installation, by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces. Cure sealants for high early strength and durability.

Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

Wash and polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with glass product manufacturer's recommendations for final cleaning.

End of Section 088000

SECTION 096650 - WOOD ATHLETIC FLOORING

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 specification sections, apply to work of this section.

SUMMARY:

Extent of sports wood flooring is indicated on drawings and in schedules.

Types of sports wood flooring required include the following:

Wood flooring for Gymnasium Floor only.

QUALITY ASSURANCE:

Supplier Qualifications:

Supplier shall be an established firm experienced in wood gymnasium flooring installations.

Installer Qualifications:

Flooring contractor shall be a firm experienced in flooring field and approved by manufacturer. Submit a list of at least three completed projects of similar magnitude and complexity. Installer shall have minimum five (5) years experience installing the specified type flooring.

SUBMITTALS:

Manufacturer's Product Data and Specifications.

Submit 3 copies of WSFI Recommendations for correct preparation, finishing and testing of concrete subfloor surfaces to receive wood flooring.

Samples: Submit one sample of proposed floating system.

Maintenance Literature: Submit 3 copies of "WSFI Care and Preservation of Your Wood Floors"

Certification: Suppliers shall submit certificates attesting that materials furnished will meet specifications for grade, quality, dryness and treatment.

DELIVERY, STORAGE AND HANDLING:

Delivery of Materials:

Materials shall not be delivered, stored or installed until all masonry, painting, vct, and resinous flooring work are completed. All overhead mechanical work, lighting, backstops, scoreboards are installed. Room temperature of at least 60 to 80 degrees Fahrenheit and relative humidity range of 35 to 50% are to be maintained.

JOB CONDITIONS-SEQUENCING:

Do not install floor system until concrete has been cured 60 days and the requirements in Paragraph above are obtained. Permanent heat, light and ventilation shall be installed and operating during and after installation. Maintaining a temperature range of 60 to 80 degrees Fahrenheit and a relative humidity range of 35 to 50%. After floors are finished, area to be kept locked by general contractor to allow curing time for the finish. If after required curing time general contractor or owner requires use of gym, he shall protect the floor by covering with non-fibred draft paper or red rosin paper with taped joints, until acceptance by owner of complete gymnasium floor.

GUARANTEE:

Guarantee shall not cover damage caused in whole or in part by casualty, ordinary wear and tear, abuse, use for which materials is not designed, faulty construction of the building, settlement of the building walls, failure of the other contractors to adhere to specifications, separation of the concrete slab and excessive dryness or excessive moisture from humidity, spillage, migration through the slab or wall, or any other source.

Gymnasium flooring shall be fully (non pro-rated) guaranteed FIVE (5) years against defects in materials and/or installation.

PART 2-PRODUCTSMATERIALS:Gym Floor:

Gymnasium Floor Basis of Design Robbins Bio-Cushion Classic.

Concrete Slab Depression:

Bio-Cushion Subfloor system - 2-1/8" with 7/16" thick pad. Contractor coordinate depression requirements prior to slab placement.

Bio-Cushion Subfloor System:

EPDM Bio-Pads: 7/16"

Plywood subfloor: 2 layers of 1/2" thick x 4' x 8', exposure 1, APA Rated Sheathing.

Fasteners:

Flooring: 2" 15 gauge cleats or staples.

Subfloor: 1" length, 7/16" crown, coated staples or equivalent.

Construction Adhesive: PL400 or equivalent

Flooring: 25/32" thick x 2 1/4" Third & Better, Unfinished TGEM, KD Northern Hard Maple Continuous strip XL Flooring as manufactured by Robbins and graded in accordance with MFMA-FJ rules. Flooring shall have XL plus technology to reduce or eliminate routine spacing for expansion.

Vapor Barrier: 6 mil polyethylene

PART 3 -EXECUTIONINSPECTION:

Inspect concrete subfloors for proper tolerance and dryness, and report any discrepancies to general contractor in writing. All work required to put concrete subfloors in acceptable condition shall be responsibility of general contractor. Subfloors shall be broom cleaned by general contractor.

Concrete slabs and substrate construction shall be level to within 1/8" in 10'-0", 1/4" maximum overall variation within room area.

INSTALLATION:

Membrane: Install polyethylene with joints lapped a minimum of 6 and turned up 4" at walls.

Bio-Cushion Subfloor System:

Install Robbins shock absorbing pads per manufacture's recommendations.

Install lower 1/2" plywood subfloor with long dimension perpendicular to flooring direction staggering all joints 4' and spaced 1/4" apart.

Install the upper subfloor diagonal to the lower subfloor panels staggering joints 4' and spacing 1/4" apart. Secure upper panels with adhesive (box X pattern) and 1" staples at 6" o.c. at panel perimeter and 12" o.c. throughout interior.

Machine nail maple flooring 10" to 12" o.c. with end joints properly driven up and proper spacing provided for local humidity conditions. Provide 2" expansion void at perimeter and at all vertical obstructions.

Sanding: Sand and prepare floor surfaces to be smooth, without gouges or undulations. Sand flooring with drum sander, edger, buffer and hand scraper. Use coarse, medium and fine grade sandpaper. After sanding with drum sander, buff entire floor using 100 grit screen back or equal grit sandpaper with a heavy-duty buffing machine. Vacuum or tack floor before first coat of sealer. Floor shall present a smooth surface with drum stop marks, gouges, streaks or shiners.

Finishing:

Apply (2) coats of Robbins Miracle Sealer and not less than (3) Coats of Robbins Miracle Finish. Screen back or steel wool and vacuum or tack between each coat after it dries.

Game Lines: Apply game lines accurately after seal coat after buffing and vacuuming. Layout in accordance with drawings. For game lines, use current rules of association having jurisdiction Lines shall be straight with sharp edges in colors selected by Architect.

Perimeter Base: Install Robbins vent cove base anchored to walls with base cement or screws and anchors. We pre-molded outside corners and neatly mitered inside corners.

Cleanup: Clean up all unused materials and debris and remove same from premises.

Wax and buff completed finish before permitting traffic.

PROTECTION:

Protect completed wood flooring during remainder of construction period with heavy Kraft paper or other suitable covering, so that flooring and finish will be without damage or deterioration at time of acceptance.

End of Section 096650

SECTION 104100 - MESSAGE BOARD SCHOOL SIGNPART 1 - GENERALRELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections apply to work of this section.

PROJECT CONDITIONS:

Shop Drawings: Shall be submitted for approval of all items specified under this Section before fabrication or installation.

Protection: All material and equipment shall be protected from damage or defacing until acceptance of the work by the Owner. Defective, damaged, or defaced material or equipment shall be repaired or replaced by the Contractor.

SUBMITTALS:

Product Data: Provide manufacturer's product data for each item in this Section.

Shop Drawings: Provide shop drawings for all items showing dimensions, locations and coordination with building features and other components.

Colors: Provide actual material color samples of all items from manufacturers' full range of standard colors for selection by Architect.

PART 2 - PRODUCTSGENERAL:

Provide an exterior Two (2) Sided monument school sign, consisting of two sections, one with school name and address and one being a LED electronic message center. School Identification section shall contain full school name and street address in 6" high helvetica letters. Message section shall contain LED message board. See drawings for size and dimensions.

School Identification Sign: Minimum 3/16" thick polycarbonate removable face panel. Provide copy in 3M black vinyl and background in translucent white. Provide white LED lighting to evenly back light school identification sign. Connect to house power supply in sign cabinet. Provide access panel to be mounted with continuous hinge and removable screws

LED Electronic Message Center (EMC):

Acceptable Manufacturers: Basis of design is Fairplay by Translux. Daktronics; Emedco and Electro-Matic products are acceptable manufacturers provided they meet or exceed the specifications listed herein.

Message Board Specifications:

LED Type	Oval lamp
Brand of Lamp	Cree, Silan or Nichia
Minimum Number of RGB Lamps	33,600
Pixel Configuration	1R/1G/1B
Pixel Pitch center-to-center	16.0 mm or less
Approximate Dimensions	4'-0" X 8'-0"
Ingress Protection	Front IP65 / Rear IP43
Viewing Angle	140° / 70°
Brightness	10,000 + nits
Service Address	Front
Refresh Rate	2400 hz
Processing	16 Bit Color
Frame Rate	60 Frames per second
Operating Temperatures	-10°F to 120°F with 99% RH non-condensing
Dimming Level	Manual = 100 levels, automatic = 16 levels
Warranty	5 year Parts & Labor
Sign Control allowed.	Sign controls shall be hard wired, no wireless
Control Software	Network compatible. To be provided and turned over to BCSS Construction Manager for installation.
Operation & Demonstration	Provide on-site operation and maintenance demonstration by Sign Manufacturer's Representative. Minimum of ½ day on site instruction for school personnel.

Provide 120 volt, 20 amp circuit for each LED sign face; 120 volt, 20 amp circuit for message board lighting; a 120 volt, 20 amp service outlet at the base of the sign and a 120 volt, 20 amp circuit for network switch. Provide space in sign for all electrical connections and space for owner provided network switch. Minimum clearance spaces for network switch to be 12" wide X 12" high and 2" deep. Electrical circuits for LED sign and network switch to be surge protected.

Each message board face must have a RJ45 Network Interface Connection.

Provide empty 2" metal conduit, with intermediate pull boxes, from building nearest administration area to sign interior for fiber optic control cable. Fiber Optic control cable to be furnished by BCSS. Provide second 2" empty conduit to terminate in pull box adjacent to sign for future use.

All Conduit used for sign to route thru base and/or sign so as to be hidden from view and terminate in access panel of sign.

SCHOOL MESSAGE BOARD SIGN CABINET:

Provide aluminum fabricated sign cabinet with LED lights.

Door:

Clear 3/16" polycarbonate cabinet door on each side with (2) two stainless steel cam locks on each door. Will full length continuous piano hinge at top of door panel and (2) two hold open arms or gas shocks at each end of door panel to allow for access to change letters.

Interior Background Panel:

White 3/16" translucent polycarbonate with clear acrylic letter tracks to hold changeable letters.

Site Message Board Letters:

Provide black letters for site message board sized to fit in the back ground panel acrylic tracks. Provide minimum 400 letters and numerals as follows:

E	24 each
AIOU	20 each
FGHLMNPRST	16 each
BCD	12 each
JKVWYZ	8 each
QX\$	4 each
1234567890	4 each

Provide 20 clear 3" wide by 6" tall clear plastic blanks for creating punctuation.

Electrical Coordination:

Provide empty 2" metal conduit, with intermediate pull boxes from building to main administration area to sign for future use. Provide empty pathway underground conduit to sign base up through masonry base to bottom of sign cabinet.

All conduit used for sign to route thru base and/or sign so as to be hidden from view and terminate in access panel of sign. See electrical drawings for all conduit, circuits, and future rough-in to be provided.

EXECUTION:

Provide brick base and pilasters as required to adequately support sign. Base and pilasters also structurally designed to meet all code requirements, see drawings.

End of Section 104100